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Army seeks public input on removing VX vapor from tanks

Two treatment options under consideration

By Patricia L. Pastore/Tribune-Star/Newport

Army officials collected input from the public Thursday on the choice from between two treatment options to remove VX vapor from bulk agent storage tanks.

The tanks were used in the 1960s during the manufacture of VX at the Newport Chemical Depot.

Eight tanks that once contained VX were drained and decontaminated in 1969.



Three of them, however, have tested positive for VX agent vapor, said Don Benton, system manager for the VX production facility, non-stockpile activity. He said the decontamination project is to "get the liquid off the surface of the metal."

"They did the best they could in 1969 and the tanks are dry today," Benton said. "In 1969 they also used the best analysis techniques they had then and could not detect VX. Thirty years later, we have much more sophisticated instruments."

By Army safety regulations, the tanks must be decontaminated, Benton said. He said trace amounts of VX were found on three of seven tanks. One tank has not yet been tested, he said.

The trace amounts of VX are coming off the surface of the metal when the tanks are heated, Benton said.

In a public meeting Thursday in Newport, officials with the Army's Non-Stockpile Chemical Material Project sought comments from citizens on how to rid the tanks of the vapor.

The two treatment options under consideration are electrical resistance heating, known simply as ERH; and liquid decontamination (chemical rinsing).

Electrical resistance heating, according to information provided by the Army, uses a process in which the tanks would be wrapped in electrical resistance heaters, covered with insulators, then slowly heated over a seven- to 10-hour period to 1,000 degrees to ensure any residual chemical agent is driven off the tank walls. The expanding air from the tank would go through a vent pipe into an air mixing chamber and vented through carbon filters.

No liquid waste is associated with this process and only 3,500 pounds of solid waste is estimated to be generated. Because heating the tanks eliminates residual VX, operations

to cut the tanks to recycle the pieces require minimal levels of protective equipment, which results in less heat stress on workers. The high temperature process requires diesel electrical generators. The second option, liquid decontamination, involves a sodium hydroxide rinse and a water rinse that is pumped through the tanks.

The storage tank would be attached to a supply tanker filled with sodium hydroxide. When decontamination is complete, the used sodium hydroxide would be pumped into a liquid waste tanker. Then the tank would be rinsed with water. The rinse process is repeated, if necessary, to achieve decontamination goals. After rinsing, the tanks would be cut within vapor containment structures.

The liquid decontamination produces 232,000 gallons of sodium hydroxide and water waste if decontamination only takes one set of rinses. It could take more, according to Benton. This method also produces 94,000 pounds of solid waste for each rinse cycle, he said. Workers would be required to have breathing protection and chemical protective clothing during the cutting operations.

Benton said the first option, the heating method, is about 65 to 70 percent cheaper than liquid decontamination. "We have to pay for all the costs of liquid waste," he said.

Electrical resistance heating is something that is used commercially, he said. He said there are no flames involved.

It's similar to the way self-cleaning ovens work, Benton said.

"Self-cleaning ovens typically work at 900 degrees Š , " he said.

Additionally the heating method is expected to save time. The VX production facility at Newport must be destroyed by April 29, 2007, according to the Chemical Weapons Convention.

The heating method will save about six months of additional work, Benton said.

Last August, the Army was unaware there existed an alternative to liquid decontamination.

"In January we learned about ERH, while air monitoring we heated tanks to 70 degrees Fahrenheit. Engineers told Benton the storage tanks could be heated to 1,000 degrees Fahrenheit to drive out air inside them."

Benton said they agreed to look at this method.

"The cost numbers were favorable and the biggest issue is the number of days workers had to be in high protective gear. Also we looked at the waste volume, which is a substantial reduction," he said. "Making it easier on workers is a good thing," Benton said.

Mike Scott, a Rockville property owner, said he came to the meeting to learn more about the non-stockpile options for ridding VX from the tanks. "The ERH method causes the VX to degrade and vaporize. It sounds a lot better than liquid decontamination," he said. "You don't have contaminated waste to deal with and there is no hazard associated with ERH."

Leonard Akers of Clinton, a citizen who attended the meeting, favors the heating method.

"I don't believe there would be a problem with the ERH method. It's less risky for the workers, it costs less and there is less of a chance for anything to go wrong."

The Army will decide on an option in seven to 10 days, Benton said.

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